



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

October 28, 2008
Honolulu, Oahu

Application for a Stream Diversion Works Abandonment Permits for:

1. Diversion #3-3353-005D, Punaluu Stream, Oahu, TMK: (1) 5-3-003:011:001, (SDWP.1910.3)
2. Diversion #3-3354-001D, Punaluu Stream, Oahu, TMK: (1) 5-3-003:011:001, (SDWP.1909.3)
3. Diversion #3-3453-001D, Punaluu Stream, Oahu, TMK: (1) 5-3-003:001, (SDWP.1908.3)
4. Diversion #3-3600-001D, Kaiwikoele Stream, Oahu, TMK: (1) 6-3-001:001, (SDWP.1911.3)
5. Diversion #8-6844-001D, Honokane Nui, Hawaii, TMK: (3) 5-1-001:004, (SDWP.1913.8)

APPLICANT:

Kamehameha Schools/Bishop Estate
567 South King Street
Honolulu, HI 96813

LANDOWNER:

Same

SUMMARY OF REQUEST:

Kamehameha Schools (KS)/Bishop Estate have applied for permits to abandon the following stream diversions structures:

1. Diversion #3-3353-005D, Ditch #4 of the Punaluu Ditch System, Oahu
2. Diversion #3-3354-001D, Tunnel #2 of the Punaluu Ditch System, Oahu
3. Diversion #3-3453-001D, a two-inch portable pump in Punaluu Stream, Oahu
4. Diversion #3-3600-001D, an open concrete channel in Kaiwikoele Stream, Oahu
5. Diversion #8-6844-001D, a portion of the Kohala Ditch System, Honokane Nui Stream, Hawaii

LOCATION:

Three diversions are located in Punaluu (Exhibit 1) and one in Waimea Valley (Exhibit 2) on Oahu, and one on the Big Island (Exhibit 3).

ITEM C3

BACKGROUND AND DESCRIPTION:**1. Diversion #3-3353-005D, Ditch #4 of the Punaluu Ditch System, Oahu**

In 1989, Koolau Agricultural Co., Ltd filed a Registration of Stream Diversion Works and Declaration of Water Use for Ditch #4 of the Punaluu Ditch System. Koolau Agricultural Co., Ltd. was lessee and operator of the diversion works, and KS was the owner of the diversion works site. This diversion purportedly served two domestic connections and 200 acres of aquaculture with an estimated flow of 100,000 gallons per day (gpd) above Ditch #4, and the amount that was diverted was unknown. Koolau Agricultural Co., Ltd.'s lease has since been terminated, and this diversion works is not active. See Exhibit 1a.

In August 2008, KS re-inspected the three Punaluu diversions. Ditch #4 is a short 163-foot section of the open ditch between Tunnels #3 and #4. A small tributary to Punaluu Stream passes over Ditch #4 via a short concrete and rock flume section. It is likely that KS former lessee's who submitted the Declaration form to the Commission wanted to reserve their right to potentially add this tributary to the ditch system. It is apparent that they never did so, as there is no structure in place to allow such a diversion. KS does not intend to do so either and is requesting approval to abandon this diversion.

2. Diversion #3-3354-001D, Tunnel #2 of the Punaluu Ditch System, Oahu

In 1989, Koolau Agricultural Co., Ltd filed a Registration of Stream Diversion Works and Declaration of Water Use for Tunnel #2 of the Punaluu Ditch System. Koolau Agricultural Co., Ltd. was lessee and operator of the diversion works, and KS was the owner of the diversion works site. This diversion purportedly served two domestic connections and 200 acres of aquaculture. According to the Registration, the estimated flow above Tunnel #2 was 300,000 gpd, and the divertable capacity was 500,000 gpd. Koolau Agricultural Co., Ltd.'s lease has since been terminated, and this diversion works is not active. See Exhibit 1 b.

Tunnel #2 is a 645-foot section of tunnel between Ditches #2 and #3. The tunnel is in good shape, and there is no water diversion structure to add water to the ditch system. However, there is a tributary to Punaluu Stream right after Tunnel #2, and a concrete and rock reinforced tunnel/shield allows the tributary to pass unimpeded over the ditch system, but no water is added to the stream. KS' former lessee submitted this declaration and may have intended to divert water from this small tributary into the Punaluu ditch system as an additional source but did not do so because there is no structure in place to allow such a diversion. KS does not intend to do so either and is requesting approval to abandon this diversion.

3. Diversion #3-3453-001D, a two-inch portable pump in Punaluu Stream, Oahu

In 1989, Hawaii Fish and Shellfish Co. (HFSC) filed a Registration of Stream Diversion Works and Declaration of Water Use for a small two-inch portable pump in Punaluu Stream. HFSC was the operator of the diversion works, and KS (Bishop Estate) was the owner of the diversion works site. The diversion used rainfall runoff and had a divertable capacity of 150 gallons per minute (gpm) that was used to maintain the water level and quality of aquaculture ponds. HFSC's lease has been terminated, and the two-inch pump has been removed. KS is requesting approval to abandon this diversion.

4. Diversion #3-3600-001D, an open concrete channel in Kaiwikoele Stream, Oahu

In 1989, Wailua Sugar Co. (WSC) filed a Registration of Stream Diversion Works and Declaration of Water Use for an open concrete channel at elevation 840 on Kaiwikoele Stream which feeds Waimea Valley. The Registration noted at that time that the diversion was not in use, but nevertheless a diversion number was assigned. KS checked with Mr. Mike Farrel, the former irrigation system operator for Waialua Sugar in the 1960's and 1970's and Mr. Milton Agadar, the system operator in the 1980's and 1990's, and both had no recollection of such a diversion. See Exhibits 2 and 2a.

In August 2008, KS conducted an aerial (helicopter) survey to find the diversion, hiked in to the vicinity and only found concrete and metal remains shown in the photo. KS requests approval to abandon this diversion.

5. Diversion #8-6844-001D, a portion of the Kohala Ditch System, Honokane Nui Stream, Hawaii

In 1989, Chalon International of Hawaii, Inc. filed a Registration of Stream Diversion Works and Declaration of Water Use for a part of the Kohala Ditch system. Chalon International of Hawaii, was the operator of the diversion works, and KS was the owner of the diversion works site. Currently, sections of the Kohala Ditch System are on KS lands which are leased to Surety Kohala Corp. who now operates the ditch system. See Exhibits 3 and 3a.

This former ditch diversion on the West Branch of Honokane Stream was an ancillary diversion that added water to the Kohala Ditch System. According to a long-time ditch operator Surety Kohala Corp. (formerly Chalon International of Hawaii), the diversion was not in use for as long as they could remember. Following the October 15, 2006, Kiholo earthquake and in 2007, KS took aerial photos of the flume across the West Branch of Honokane Nui Stream. The diversion was obliterated, and the flume repair would require a new closed pipe section. KS has no plans for any additional intakes and is requesting approval to abandon this diversion without any further work.

ANALYSIS:

The City and County of Honolulu, Department of Planning and Permitting made the following comments regarding the stream diversion works abandonment on Oahu:

- The diversion works are not located in the Special Management Area (SMA); and, therefore, not subject to SMA use permit requirements.
- According to the Flood Insurance Rate Map (FIRM), the diversion works are not located within the AE floodway district; and, therefore, certifications of "no-rise" are not applicable.
- The abandonment of diversion works does not involve any grading; and, therefore, is not subject to the City and County's grading ordinance.

The Land Division commented that Kamehameha Schools/Bishop Estate should remain responsible for any water problems occurring at the diversion sites that cannot be located or are difficult to access.

The Division of Aquatic Resources (DAR) commented that any diversion structures (such as pipes, concrete, stone or wood structures) or alterations to the area associated with the diversion should be removed and the area restored to its natural state.

The Office of Hawaiian Affairs (OHA) had no comments to offer. The County of Hawaii Planning Department, State Parks, and Forestry and Wildlife had no objections to the diversion abandonments.

The U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, Department of Health Clean Water Branch, Department of Hawaiian Home Lands, Engineering, Historic Preservation, and University of Hawaii Environmental Center did not submit comments as of the date of preparation of this submittal.

RECOMMENDATION:

That the Commission approve stream diversion works abandonment permits for the following stream diversion works:


1. Diversion #3-3353-005D, Punaluu Stream, Oahu, TMK: (1) 5-3-003:011:001, (SDWP.1910.3)
2. Diversion #3-3354-001D, Punaluu Stream, Oahu, TMK: (1) 5-3-003:011:001, (SDWP.1909.3)
3. Diversion #3-3453-001D, Punaluu Stream, Oahu, TMK: (1) 5-3-003:001, (SDWP.1908.3)
4. Diversion #3-3600-001D, Kaiwikoele Stream, Oahu, TMK: (1) 6-3-001:001, (SDWP.1911.3)
5. Diversion #8-6844-001D, Honokane Nui, Hawaii, TMK: (3) 5-1-001:004, (SDWP.1913.8)

Respectfully submitted,


KEN C. KAWAHARA, P.E.
Deputy Director

- Exhibits:
1. Map of Punaluu Stream Diversion Works
 - 1a. Photos of Ditch #4 of the Punaluu Ditch System, Oahu
 - 1b. Photos of Tunnel #2 of the Punaluu Ditch System, Oahu
 2. Map of Kaiwikoele Stream Diversion Works, Oahu
 - 2a. Photos of concrete channel in Kaiwikoele Stream, Oahu
 3. Map of West Branch of Honokane Nui Stream, Hawaii
 - 3a. Photos of West Branch of Honokane Nui Stream, Hawaii

APPROVED FOR SUBMITTAL:


LAURA H. THIELEN
Chairperson



Department of Land and Natural Resources
Commission on Water Resource Management
Stream Protection and Management Branch

ISLAND OF OAHU

LEGEND

Streams

----- Ephemeral

----- Intermittent

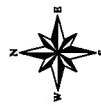
----- Perennial

* Diversions

This map was produced by the Department of Land and Natural Resources (DLNR), Commission on Water Resource Management for planning purposes. It should not be used for boundary interpretations or other spatial analysis beyond the limitations of the data. Information regarding compilation dates and accuracy of the data presented can be obtained from DLNR.

Datum: North American Datum 1983

Tax Map Key (TMK) layer is comprised of tax assessor parcels derived from paper plat maps with attributes from public tax assessor records and is updated by each respective county.



0 0.050.1 0.2 0.3 0.4 0.5 Miles

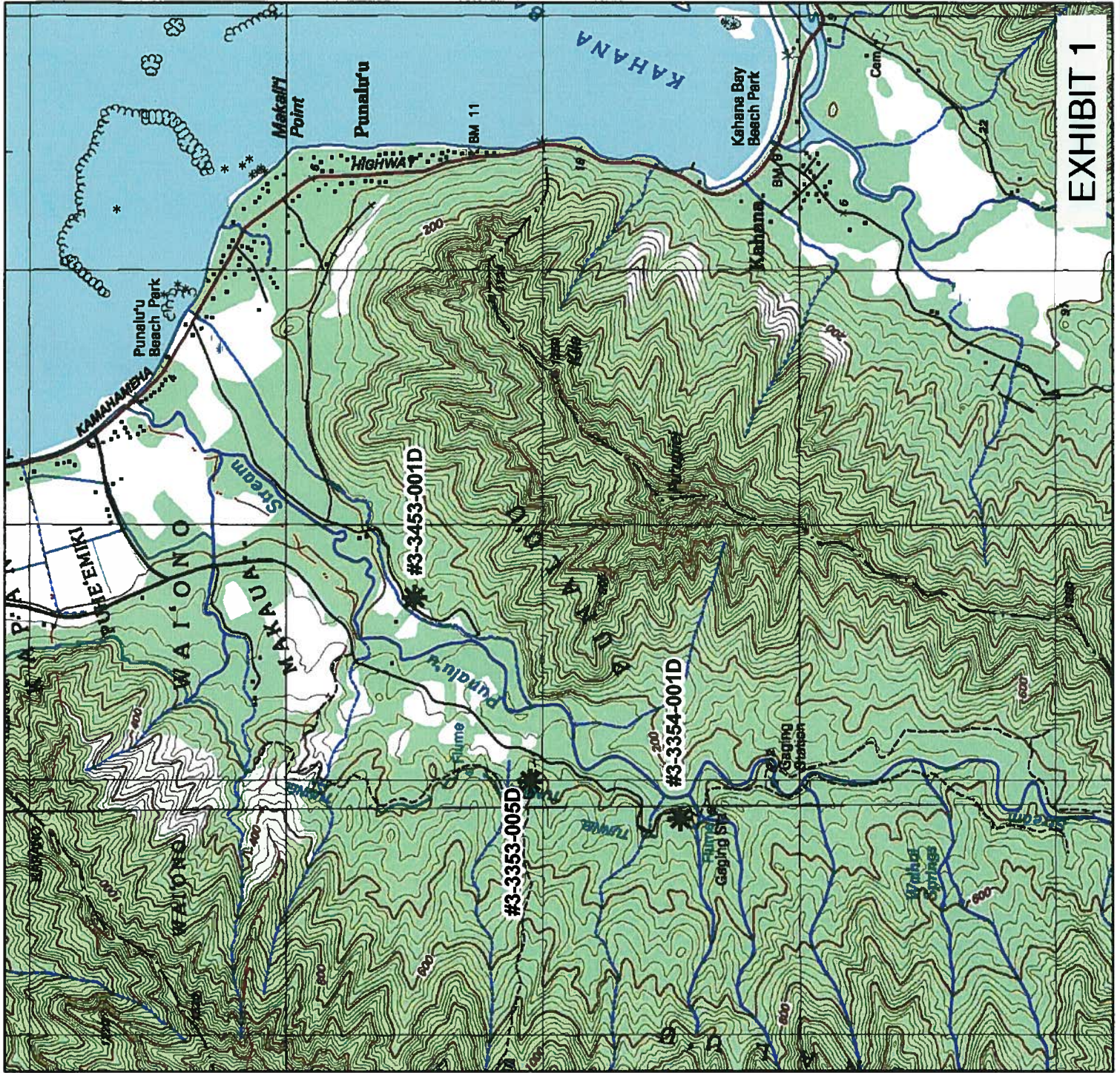


EXHIBIT 1



KAMEHAMEHA SCHOOLS

Diversion #3-3353-005D, Ditch #4 of the Punalu'u Ditch System

Ditch #4 is a short 163 foot section of open ditch between Tunnels 3 and 4. There is a small tributary to Punalu'u Stream which passes over Ditch #4 via a short concrete and rock flume section. It is likely that former KS lessee's who submitted the declaration form to CWRM wanted to reserve their right to potentially add this tributary to the ditch system. It is apparent that they never did so as there is no structure in place to allow such a diversion. KS does not intend to do so either.



Concrete and rock flume at Ditch #4 directs flow from a small tributary OVER the Punalu'u Ditch system.



KAMEHAMEHA SCHOOLS

Diversion #3-3354-001D, Tunnel #2 of the Punalu'u Ditch System

Tunnel #2 is a 645 foot section of tunnel between Ditches 2 and 3. The tunnel is in good shape and there is no water diversion structure to add water to the ditch system. However, there is a tributary to Punalu'u Stream right after Tunnel #2. There is a concrete and rock reinforced tunnel/shield that allows the tributary to pass unimpeded over the ditch system, but no water is added to the system. It is possible that KS' former lessee who submitted this declaration to CWRM intended to divert water from this small tributary into the Punalu'u Ditch system as an additional source. It is apparent that they never did so as there is no structure in place to allow such a diversion. KS does not intend to do so either.



Looking upstream (towards source) from
entrance of Tunnel #2



KAMEHAMEHA SCHOOLS



Inside of Tunnel #2



KAMEHAMEHA SCHOOLS



Looking downstream from exit of Tunnel #2



Water from small tributary flowing over rock and concrete tunnel/shield that goes over the ditch system



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* Diversion
#3-3600-001D

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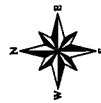
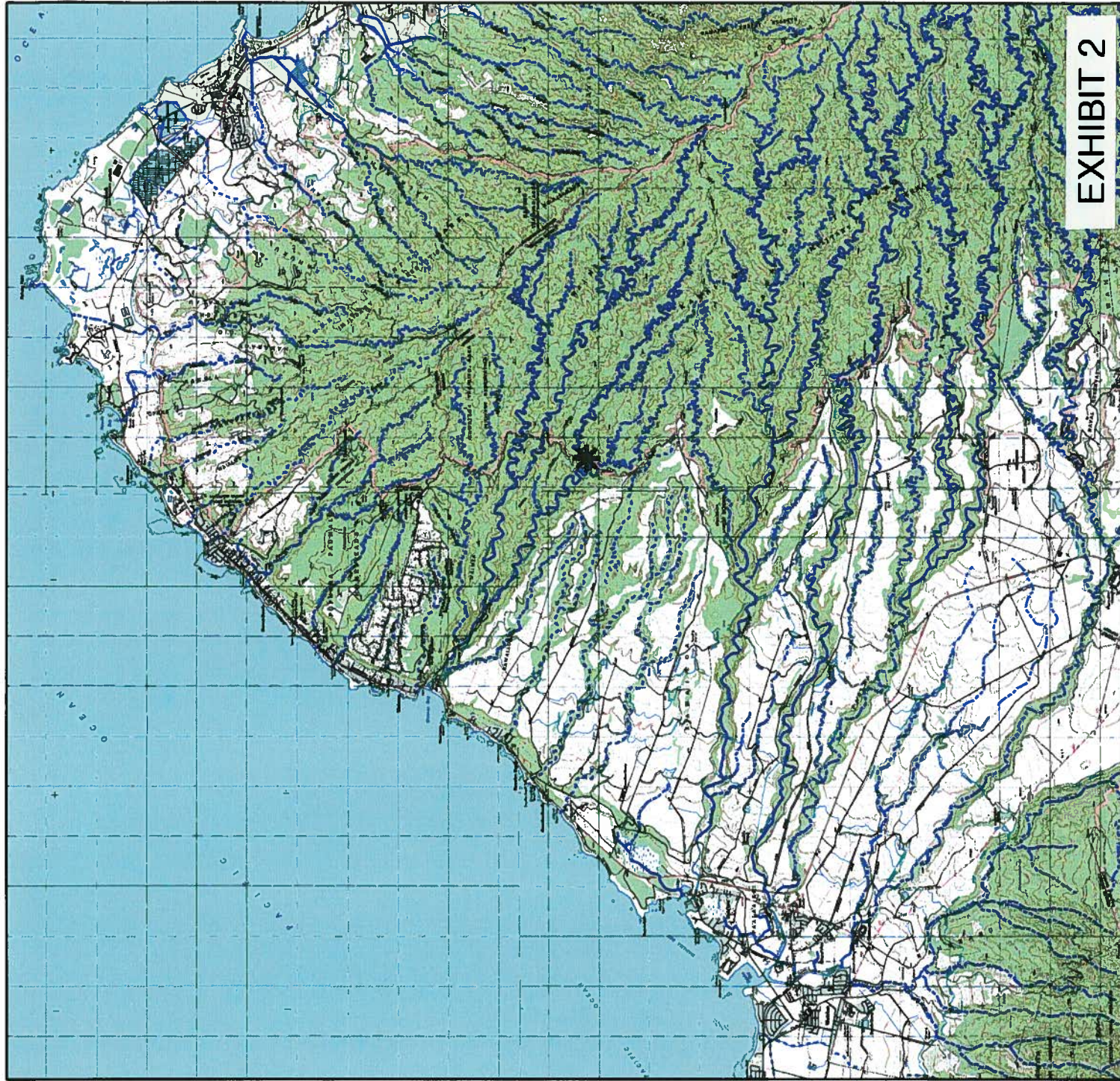


EXHIBIT 2





KAMEHAMEHA SCHOOLS

Diversion #3-3600-001D, concrete channel in Kaiwikoele Stream

The registration of this diversion is somewhat of a mystery as even the operator whose name is on the registration doesn't think this diversion exists. Mr. Milton Agadar, who was an irrigation system operator for Waialua Sugar in the 1980s and 1990s, says he knows of no such diversion and there definitely was none there when he worked there. Mr. Mike Farrel was the operator prior to Mr. Agadar in the 1960's and 1970's and he has no recollection of any such diversion. Mr. Farrel notes that if there was a water source on that side of the property they would definitely have used it as those fields were all un-irrigated. It is KS' opinion that Waialua Sugar may have made a very early attempt to divert intermittent flow from Kaiwikoele Stream but it came to nothing. This may have been in their records somewhere and when administrative/legal staff filled out the forms they did this one also to be safe. Mr. Agadar was just the operator whose name was entered on the form.

For completeness, we did make an aerial (helicopter) attempt to find the diversion and hiked in one more time. All we could find in the vicinity noted on the declaration is the concrete and metal remains shown below. Please note that those streams are very intermittent and rarely have any flow – as clearly depicted in the photos.



Kaiwikoele Stream at 840' elevation



KAMEHAMEHA SCHOOLS



Concrete and metal



Metal pipe



Department of Land and Natural Resources
Commission on Water Resource Management
Stream Protection and Management Branch

ISLAND OF HAWAII

LEGEND

Streams

..... Ephemeral

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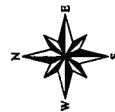
———— Perennial

* #8-6844-001D

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0 0.5 1 2 3 4 Miles

EXHIBIT 3





KAMEHAMEHA SCHOOLS

Diversion #8-6844-001D, West Branch of Honokane Nui Stream

This former diversion on the West Branch of Honokane Nui Stream was an ancillary diversion that added water to the Kohala Ditch System. According to long-time ditch operator Surety Kohala Corp. (formerly Chalon International of Hawaii), the diversion was not in use for as long as they can remember. Following the October 15, 2006 Kiholo Earthquake the flume across the West Branch of Honokane Nui and all appurtenances were totally destroyed. Besides the fact that the diversion was obliterated, the flume repair will entail a closed pipe section and there are no plans for any additional intake.



View from the air of the destroyed flume right after the 2006 Kiholo Earthquake.



View of the tunnel exiting the West Branch of Honokane a year after the earthquake. Note that the side of the stream the diversion was on was completely erased from the hillside.